

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

NCS MULTISTAGE INC.,

Plaintiff,

v.

NINE ENERGY SERVICE, INC.,

Defendant.

CIVIL ACTION NO. 6:20-CV-00277-ADA

JURY TRIAL DEMANDED

**DEFENDANT NINE ENERGY SERVICE, INC.'S
REPLY CLAIM CONSTRUCTION BRIEF**

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TABLE OF ABBREVIATIONS

Abbreviation	Full Name
'445 Patent	U.S. Patent No. 10,465,445 (Dkt. 42, Exhibit 2)
<i>Gano</i>	U.S. Patent No. 5,479,986 (Dkt. 42, Exhibit 7)
Meehan Dep.	Dr. Nathan Meehan Deposition Transcript (November 10, 2020) (Excerpts in Exhibit 2)
NCS	NCS Multistage, Inc.
NCS Br.	Plaintiff NCS's Opening Claim Construction Brief (Dkt. 41)
NCS Resp. Br.	NCS's Response to Nine's Opening Claim Construction Brief (Dkt. 45)
Nine	Nine Energy Service, Inc.
Nine Br.	Defendant Nine Energy Service, Inc.'s Opening Brief On Claim Construction (Dkt. 42)
Nine Resp. Br.	Defendant Nine Energy Service, Inc.'s Responsive Claim Construction Brief (Dkt. 46)
POSA	Person of Ordinary Skill in the Art
Rodgers Dep.	Dr. John P. Rodgers Deposition Transcript (November 9, 2020) (Excerpts in Exhibit 1)

I. INTRODUCTION AND SUMMARY OF ARGUMENTS

The asserted claims are indefinite because a POSA cannot know with reasonable certainty what it means to be parallel to an internal diameter, yet the claims require the “region of the tubular member where the rupture disc is attached” to be “parallel to the internal diameter of the casing string.” NCS has highlighted this indefiniteness by presenting a theory of “internal diameter” with two opposing definitions *yet failing to pick from among them*. Indeed, NCS cannot even choose which meaning applies to the claim term “internal diameter of the casing string,” and instead omits the concept from their construction of terms that include it.

This pattern repeats through the claims, with NCS asking for no construction, yet presenting arguments in favor of an implied construction that NCS failed to propose. NCS has presumably chosen not to propose constructions in the hope that they can avoid the scrutiny of the Court, and present their non-construction theories directly to the jury. In so doing, they ask the Court to commit reversible error by allowing the jury to construe claims. NCS’s failure to propose constructions also creates yet another problem. They demonstrate a dispute that requires construction, but provides the Court *no way* to rule in their favor, absent the Court construing the terms on its own. For these reasons, NCS’s proposed constructions should be rejected.

Nine’s constructions do not create similar issues. Nine has demonstrated how its constructions flow from simple application of the *Phillips* standard, and even where it argues that terms are indefinite, presents possible alternatives under *Phillips* where possible. For these reasons, NCS’s hollow theories should be rejected, and Nine’s identification of indefinite limitations and constructions be adopted.

II. DISPUTED CLAIM TERMS

A. “internal diameter” (Claims 1, 22, 28, and 50)

Rather than propose a construction, NCS offers up a confusing theory that “internal

diameter” actually has two alternate meanings, an ordinary meaning (the “Diameter Definition”), and an industry-specific definition (the “Sidewall Definition”). But NCS chose not to propose this theory as a construction. Indeed, this failure admits the indefiniteness of terms that include “internal diameter.” The Court should reject these arguments, and adopt Nine’s construction, which is consistent with the plain and ordinary meaning of the term “internal diameter.”

1. NCS’s Proposal Not To Construe the Term Demonstrates Indefiniteness

NCS’s refusal to provide a construction is tantamount to an admission of the indefiniteness of the asserted claims. If NCS believed that the Sidewall Definition was consistently used in the claims, it should have proposed the Sidewall Definition as a construction. If NCS believed that both definitions were present in the claims, it should have proposed a series of constructions, identifying each time each definition was used. NCS did neither. Instead, it attempts to avoid scrutiny of its theory by not offering no construction at all. Nine Resp. Br., at 2-3.

But construction of this term cannot be avoided. Choosing not to construe a term is inadequate where a term has multiple ordinary meanings, or where reliance on an ordinary meaning does not resolve the parties’ dispute. *O2 Micro Int’l Ltd. v. Beyond Innov. Tech. Co., Ltd.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). Both factors are present here. More than that, a *single party* is arguing that there are multiple meanings of the term, and refusing to choose from among them.

In a futile attempt to avoid construction, NCS presents two implausible arguments. First, it argues that construction is not necessary because there is no dispute about the scope of this term. NCS Resp. Br., at 2. On the very same page, NCS then disputes Nine’s proposed construction. *Id.* Second, it argues that construction is not necessary because its theory of “internal diameter” would be readily understood by a POSA. NCS Br., at 4-5. But constructions are for lay juries, not POSA’s. Nine Resp. Br., at 2. It is reversible error for a court to fail to construe a disputed term, and thereby allow the parties to present their arguments on the term’s meaning directly to

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the jury. *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319-20 (Fed. Cir. 2016).

NCS's arguments are therefore not just contrary to both evidence and law, but present an enormous inconvenience to the Court. Where parties raise an actual dispute regarding the scope of claims, "the court, not the jury, *must* resolve the dispute." *O2 Micro*, 521 F.3d at 1360. Yet NCS has provided *no guidance* in its proposed construction or briefing to assist the Court in that inevitable task. Nor would NCS's expert be of assistance, as he cannot consistently identify when each definition is used. Nine Resp. Br., at 3.

2. Nine Has Never Agreed to the Purported Sidewall Definition

NCS has attempted to argue that Nine used the Sidewall Definition in its IPR petition. Nine did not. Instead, the portions of the petition cited by NCS merely refer to the alleged feature of the '445 Patent that "full casing internal diameter may be restored" once the rupture disc is ruptured. NCS Resp. Br., Ex. A, at 1, 6-7, 9, 16, 19, 24, 30, 31, 49, 62. NCS's expert clearly testified that this phrase is understandable according to Nine's proposed construction. Ex. 1 ("Rodgers Dep."), at 44:1-20, 45:4-48:6. In the remaining two portions, Nine provided figures that clearly label a dimension line as the "ID," with dashed lines showing that the diameter is maintained through the tool. NCS Resp. Br., Ex. A, at 51-52, 57. Accordingly, NCS's arguments that Nine's positions here are somehow inconsistent with those in the IPR should be disregarded.

B. "the region of the tubular member where the rupture disc is attached has a larger internal diameter than the internal diameter of the casing string and is parallel to the internal diameter of the casing string" (Claims 1, 22, 28, and 50)

This limitation is indefinite. Rather than propose a reasonably ascertainable construction of the claim language, NCS has resorted to redrafting this limitation by removing the concept of an "internal diameter" entirely and importing an unsupportable subjective view of the purpose of the specification. But this subjective reasoning does not comport with the basic principles of claim

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construction law, and should be rejected.

1. This Limitation Is Indefinite

A POSA cannot understand with reasonable certainty what is meant by this limitation, and thus, the limitation is indefinite.¹ *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). This limitation is indefinite because it requires that “the region of the tubular member where the rupture disc is attached” and the “internal diameter of the casing string”— features with no inherent direction – must be parallel. *See* Nine Br., at 12-13. NCS’s attempts to remedy this fatal flaw should be rejected. First, NCS presents a convoluted theory of the term “internal diameter” that allows it to shapeshift as necessary to fit NCS’s infringement theories that even NCS’s expert cannot keep straight. *See* Nine Resp. Br., at 3.

NCS further attempts to resolve this indefiniteness by reference to the prosecution history. NCS Br., at 12-14; NCS Resp. Br., at 15-16. But here, there is yet another problem. *Gano* discloses an embodiment where there is one surface where the rupture disc is attached, and another where it is sealed, both of which are sloped in different directions. *See* Nine Resp. Br., at 10-11; *see also* Rodgers Dep., at 151:3-153:1. Applicant argued that this limitation distinguished from *Gano* for two reasons, that the rupture disc was “in *sealing engagement with and attached to* a region of the tubular member that is not parallel to the internal diameter, but instead is sloped.” Nine Br., Ex. 4, at 12. But Applicant did not amend the claim to recite both distinctions, only that the Attachment Region is parallel to an internal diameter. So which surface is the “Attachment Region?” NCS’s expert is clear that *Gano* described the rupture disc as being “seated” in the tool, which is the location of attachment. Rodgers Dep., at 151:3-152:3. Similarly, the ’445 Patent

¹ Nine’s position here is entirely consistent with the position taken in its IPR petition, where it argued that this limitation rendered the claims indefinite. *See Nine Energy Service, Inc. v. NCS Multistage Inc.*, IPR2020-01615, Paper 1 at 14 (P.T.A.B. Sep. 11, 2020).

describes the rupture disc as “seated” on the ring of tabs 46 of shear ring 44. Nine Br., Ex. 2, (“445 Patent”), at 10:22-24. Thus, a POSA is more likely to identify the Attachment Region as the surface where the rupture disc is “seated,” consistent with Nine’s proposed alternative construction. Nine Br., at 15-16; Nine Resp. Br., at 10-11. Accordingly, NCS’s arguments that the prosecution history supports their construction should be rejected.

2. Nine’s Proposed Alternative Better Embodies The Limitation As Claimed

In contrast, Nine’s proposed alternative gives clearer effect to this limitation as claimed, and as would be understood by a POSA. It uses the ordinary meaning of “attached,” does not attempt to find antecedent basis where there is none, and does not hide from the term “internal diameter.” Further, it correctly assumes that “internal diameter” has a consistent meaning throughout the limitation. Nine Resp. Br., at 6-7. Specifically, that the “internal diameter” in the phrase “casing string having an internal diameter,” the two references to this diameter as “the internal diameter of the casing string,” and the internal diameter of the Attachment Region are *all* consistent with Nine’s proposed construction of “internal diameter.” This is accomplished by not shying away from the term “parallel to an internal diameter,” but converting it to a geometric feature against which other features could be determined to be parallel. Such a feature is easy to identify and locate on a cross-sectional diagram, although it must be construed as Nine suggests to be present in three-dimensional embodiments. Nine Br., at 13-16.

NCS’s objections to this construction are, and remain, baseless. Indeed, NCS accuses Nine of interpreting the claim “with abstract geometry principles” (NCS Resp. Br., at 11), but yet the term “parallel” is a clearly geometric term. Indeed, its ordinary geometric meaning cannot be modified by a specification *that does not use it*. Nine Resp. Br., at 11. The claim calls for geometric interpretation, which is how Nine proposes to construe it.

NCS also takes Nine to task for allegedly arguing that “the casing string has no inherent

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direction.” NCS Resp. Br., 13-14. This argument is a straw man. Nine instead argued that “*the internal diameter* of the casing string,” which is the claimed feature, has no inherent direction. Nine Br., at 13. NCS thus again shows its desire to omit the deeply problematic term “internal diameter” from this limitation. And NCS has provided *no argument* disputing that two features must have inherent direction to be parallel, or that neither the internal diameter of the casing string or Attachment Region have inherent direction.

Finally, NCS presents an objection that proves Nine’s point. It argues that “if the Applicant had intended the attachment surface refer to the seating surface, it would have said so.” NCS Resp. Br., at 15. But, Applicant did claim an attachment surface – just not the one that NCS picked, showing the indefiniteness of the term. Nine Br., at 15-16. NCS further disputes Nine’s proposed construction because if Applicant intended what Nine proposes, it would have claimed that the Attachment Region was “perpendicular to the axis of the casing string.” NCS Resp. Br., at 15. But here, the phrase “parallel to an internal diameter” and “perpendicular to the axis” are fully equivalent. Rephrased, *Applicant claimed exactly what NCS alleges that Applicant did not*.

3. NCS’s Proposed Construction Should Be Rejected

NCS’s proposed construction does not comport with the claim language, and should be rejected. Indeed, the mismatch is made plain by the division of the Attachment Region into two separate features. The claim recites “the region of the tubular member where the rupture disc is attached,” yet this one feature appears in NCS’s construction as both a “portion of the tubular member,” and a “cylindrical surface.” NCS was clear that it *does not* merely propose describing the same feature in different terms, but alleges that there are *two separate features*, one finding non-textual antecedent basis in “sealing engagement with a region of the tubular member,” the other a surface within that region. NCS Resp. Br., at 9-10.

Further, NCS proposes that “attached” should be construed to include “sealing

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engagement.” NCS Resp. Br., at 10. Put another way, in the absence of any argument regarding the text, lexicography, or disavowal—which would not be possible since the term “attached” is only used *once* in the specification to refer to a feature of the *shear ring* (’445 Patent, at 10:29-32)—NCS proposes to incorporate *another claim term* into the plain and ordinary word “attached.”

Finally, NCS’s proposed construction should be rejected because it omits the concept of an internal diameter. For example, in NCS’s proposed construction, no concept of an internal diameter appears *at all*, even though the term appears *three separate times in the term*. Instead, NCS attempts to replace “internal diameters” with “pathways.” NCS Br., at 10. But the limitation compares *internal diameters*, not pathways. The sole basis for NCS’s argument arises not from this limitation, but from the preamble, which recites a “casing string having an internal diameter that defines a fluid passageway.” NCS Br., at 10-11. But this does not follow. Indeed, as NCS’s Expert explains, the Diameter Definition is consistent with describing the diameter of a fluid passage. Rodgers Dep., at 61:16-64:5. And even if NCS were right, NCS’s expert was clear that the Sidewall Definition “doesn’t make any sense” when the limitation requires the internal diameter of the Attachment Region to be larger than that of the casing string. Rodgers Dep., at 147:24-148:23. Put simply, NCS’s construction omits the concept of an internal diameter because NCS cannot identify a single meaning of “internal diameter” or a single consistent feature that is the “internal diameter of the casing string” that provides a definite understanding of the claim language. The solution is to hold the claim indefinite, not to rewrite as NCS desires.

C. “tubular member” (Claims 1, 22, 28, and 50)

NCS alleges that the term need not be construed, *yet also* refers to a feature described as “one or more tubulars” in the specification. NCS Resp. Br., at 2-3. This inconsistent argument should be rejected. Indeed, NCS cites precisely the Federal Circuit opinion that explains that “member” means “a structural unit” or “distinct part of a whole.” NCS Resp. Br., at 3-4. Rather

than give effect to the term “member,” NCS is improperly attempting to read it out of the limitation. *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1348 (Fed. Cir. 2012).

NCS’s objections to Nine’s proposed construction should likewise be rejected. NCS alleges that the specification does not describe an assembly of an upper and lower tubular member as a “tubular member.” NCS Resp. Br., at 2-4. But the specification also never discusses a “tubular member” in isolation *at all*, and the claims expressly require functions performed by both the upper and lower tubular members – “[connection/connected] in-line with the casing string.” ’445 Patent, at Claims 1, 22, 28, and 50.

D. “sealing engagement” (Claims 1, 22, 28, 50, and 55)

NCS’s objections to Nine’s proposed construction rely on a theory that a POSA would recognize that “sealing engagement” refers to a relationship, and not how that relationship is accomplished. NCS Resp. Br., at 4-5. Even if true, NCS provides *no guidance* to the jury on this issue in their proposed construction. Thus, NCS’s arguments and construction should be rejected.²

NCS’s objections to Nine’s construction are meritless. Even if there is a reasonable dispute over use of the term “attached” *in the claims*, a jury would not be confused where it appears in a construction carrying its ordinary meaning. *Every Penny Counts, Inc. v. Am. Express Co.*, 563 F.3d 1378, 1383 (Fed. Cir. 2009). Nor is Nine’s chosen definition somehow improper simply because it comes from a dictionary. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1322 (Fed. Cir. 2005) (“Dictionaries . . . are often useful to assist in understanding the commonly understood meaning of words”). Indeed, Nine’s construction merely incorporates a definition of “engagement” recognized by NCS’s expert as relevant to the ’445 Patent. Rodgers Dep., at 82:17-84:1. And

² Nor has Nine used this proposed “relational” definition of “engagement” in its IPR petition, as it precisely identified the structures that are in sealing engagement – an O-ring and/or a crush seal. NCS Resp. Br., at 5

NCS has not even attempted to show that there is any specialized meaning of the term “engagement” in the relevant art (i.e. “art-specific evidence of the meaning”) that would counsel against applying the ordinary meaning of the term. *Phillips*, 415 F.3d at 1322 (citations omitted).

E. “the rupture disc is . . . configured to rupture when exposed to a rupturing force greater than the rupture burst pressure” (Claims 1, 22, 29, and 56)

This term is indefinite. NCS proposes that it is definite because a force over an area can be converted to a pressure. NCS Resp. Br., at 6. But that is not the problem with this limitation. Instead, the limitation requires a force to be converted to a pressure *that is comparable to the rupture burst pressure of a rupture disc*. It is that conversion that is impossible on the limited information provided, and what renders this claim indefinite. Rupture discs are rated in terms of hydraulic pressure at which they fail, which is evenly applied across the surface of the disc. Nine Resp. Br., Ex. 1, at ¶31. An impact force is not. *Id.* For example, the impact force described in the ’445 Patent is the lower rim impacting on a wall of the tubular. ’445 Patent, at 10:43-47. Even if the impact force was converted to a “pressure,” that number would not be meaningfully comparable to the rupture burst pressure, as the limitation requires. *Id.* NCS has failed to provide any explanation as to how a POSA could make such a conversion, and thus the term is indefinite.³

F. “rupturing force” (Claims 1, 22, 27, 29, 56, and 57)

NCS’s proposed construction leads to a formal and irreconcilable contradiction, and thus should be rejected. *See* NCS Resp. Br., at 7-8. Specifically, NCS alleges that the term “rupturing force” means *either* a hydraulic pressure *or* an impact force sufficient to rupture the disc, including where that term is used in Claims 1, 22, 29, and 56. *Id.* Nonetheless, an “impact force sufficient

³ Nine has never agreed that rupturing forces include impact forces. The sole alleged location of such an agreement is on Page 10 of Nine’s opening brief, where Nine cited 2:7-8 in the ’445 Patent, which contains no reference to an impact force. The remainder of NCS’s string cite allegedly showing the admission cites solely to NCS’s Opening Brief and exhibits. NCS Resp. Br., at 6.

to rupture the rupture disc” is omitted from NCS’s proposed construction of term E (*supra*, § II.E), which includes the term “rupturing force.” Thus, NCS’s proposal should be rejected.

G. “specific gravity . . . of the well fluid” (Claims 24 and 52)

NCS presents yet another theory absent from any proposed construction, that this limitation is not indefinite because “a fluid can be selected that will have a lower specific gravity than the wellbore fluid at any temperature and depth.” NCS Resp. Br., at 17. But this is not what the claim describes. It describes a single specific gravity of the well fluid, which is a feature that does not exist. Nine Br., at 17. Accordingly, this limitation is indefinite.

H. “disengage the rupture disc from sealing engagement” (Claim 55)

NCS merely restated arguments from its opening brief in opposition, which are fully refuted in Nine’s Response. *Compare* NCS Resp. Br., at 17-18 *with* Nine Resp. Br., at 18-19.

I. “rupture disc is configured to disengage from sealing engagement when exposed to a pressure greater than a hydraulic pressure in the casing string” (Claims 28 and 50)

NCS has failed to show that the specification describes how a *rupture disc* can be configured as required by this limitation. Nine Br., at 18-19. Indeed, NCS admits as much by recognizing that an off-the-shelf rupture disc needs no configuration to be used with embodiments. NCS Resp. Br., at 19. Instead, NCS insists on redrafting the claims to recite “rupture disc *assembly* is configured to disengage . . .,” by explaining such configuration relative to other components of the assembly, such as the shear ring. *See* NCS Resp. Br., 18-19. But that is not what is claimed. Thus, this term is indefinite.

III. CONCLUSION

For the foregoing reasons, Nine respectfully requests that the Court find certain of the foregoing terms indefinite and adopt Nine’s proposed constructions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the 11th day of December, 2020, a true and correct copy of the foregoing document was served on all counsel of record via the Court's CM/ECF system per Local Rule CV-5(b)(1).

/s/ Hilary S. Preston
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